

SEQUENCE LISTING

<110> Bristol-Myers Squibb Company

<120> POLYNUCLEOTIDE ENCODING A NOVEL HUMAN POTASSIUM CHANNEL BETA-SUBUNIT, K β 6, EXPRESSED HIGHLY IN THE SMALL INTESTINE

<130> D0121 NP

<150> US 60/270,132

<151> 2001-02-21

<150> US 60/278,953

<151> 2001-03-27

<160> 74

<170> PatentIn version 3.0

<210> 1

<211> 2052

<212> DNA

<213> homo sapiens

<220>

<221> CDS

<222> (121)..(1095)

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tgcagctcct gagtgcagcg cggtctctcg ccactgtccc ggcccggcca cctctctgtc 120

atg gct ctg gcg gac agc aca cgt gga tta ccc aac ggg ggc ggc ggc 168

Met Ala Leu Ala Asp Ser Thr Arg Gly Leu Pro Asn Gly Gly Gly Gly

1 5 10 15

ggg ggc ggc agt ggc tcc tcg tcg tcc tcc gcg gag cca ccg ctc ttc 216

Gly Gly Gly Ser Gly Ser Ser Ser Ala Glu Pro Pro Leu Phe

20 25 30

ccc gac atc gtg gag ctg aac gtg ggg ggc cag gtg tac gtg acc cgg 264

Pro Asp Ile Val Glu Leu Asn Val Gly Gly Gln Val Tyr Val Thr Arg

35 40 45

cgc tgc acg gtg gtg tcg gtg ccc gac tcg ctg ctc tgg cgc atg ttc 312

Arg Cys Thr Val Val Ser Val Pro Asp Ser Leu Leu Trp Arg Met Phe

50 55 60

acg cag cag cag ccg cag gag ctg gcc cgg gac agc aaa ggc cgc ttc 360

Thr Gln Gln Gln Pro Gln Glu Leu Ala Arg Asp Ser Lys Gly Arg Phe

65 70 75 80

ttt ctg gac cgg gac ggc ttc ctc ttc cgc tac atc ctg gat tac ctg 408

Phe Leu Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr Leu

85 90 95

cgg gac ttg cag ctc gtg ctg ccc gac tac ttc ccc gag cgc agc cgg	456
Arg Asp Leu Gln Leu Val Leu Pro Asp Tyr Phe Pro Glu Arg Ser Arg	
100 105 110	
ctg cag cgc gag gcc gag tac ttc gag ctg cca gag ctc gtg cgc cgc	504
Leu Gln Arg Glu Ala Glu Tyr Phe Glu Leu Pro Glu Leu Val Arg Arg	
115 120 125	
ctc ggg gcg ccc cag cag ccc ggc cgg ggg cgg cgc ctc cgg cgc	552
Leu Gly Ala Pro Gln Gln Pro Gly Pro Gly Pro Pro Pro Ser Arg Arg	
130 135 140	
ggg gtg cac aag gag ggc tcg ctg ggt gac gag ctg ctg ccg ctt ggc	600
Gly Val His Lys Glu Gly Ser Leu Gly Asp Glu Leu Leu Pro Leu Gly	
145 150 155 160	
tac tcg gag ccc gaa cag cag gag ggc gcc tct gcc ggg gcg ccg tcg	648
Tyr Ser Glu Pro Glu Gln Gln Glu Gly Ala Ser Ala Gly Ala Pro Ser	
165 170 175	
ccc acg ctg gag ctg gct agc cgc agt ccg tcc ggg ggc gcg cgc ggc	696
Pro Thr Leu Glu Leu Ala Ser Arg Ser Pro Ser Gly Gly Ala Ala Gly	
180 185 190	
ccg ctg ctc acg ccg tcc cag tcg ctg gac ggc agc cgg cgc tcg ggc	744
Pro Leu Leu Thr Pro Ser Gln Ser Leu Asp Gly Ser Arg Arg Ser Gly	
195 200 205	
tac atc acc atc ggc tac cgc ggc tcc tac acc atc ggg cgg gac cgc	792
Tyr Ile Thr Ile Gly Tyr Arg Gly Ser Tyr Thr Ile Gly Arg Asp Ala	
210 215 220	
cag cgc gac gcc aag ttc cgg cga gtg gcg cgc atc acc gtt tgc gga	840
Gln Ala Asp Ala Lys Phe Arg Arg Val Ala Arg Ile Thr Val Cys Gly	
225 230 235 240	
aag acg tcg ctg gcc aag gag gtg ttt ggg gac acc ctg aac gaa agc	888
Lys Thr Ser Leu Ala Lys Glu Val Phe Gly Asp Thr Leu Asn Glu Ser	
245 250 255	
cgg gac ccc gac cgt ccc ccg gag cgc tac acc tcg cgc tat tac ctc	936
Arg Asp Pro Asp Arg Pro Pro Glu Arg Tyr Thr Ser Arg Tyr Tyr Leu	
260 265 270	
aag ttc aac ttc ctg gag cag gcc ttc gac aag ctg tcc gag tcg ggc	984
Lys Phe Asn Phe Leu Glu Gln Ala Phe Asp Lys Leu Ser Glu Ser Gly	
275 280 285	
ttc cac atg gtg gcg tgc agc tcc acg ggc acc tgc gcc ttt gcc agc	1032
Phe His Met Val Ala Cys Ser Ser Thr Gly Cys Ala Phe Ala Ser	
290 295 300	
agc acc gac cag agc gag gac aag atc tgg acc agc tac acc gag tac	1080
Ser Thr Asp Gln Ser Glu Asp Lys Ile Trp Ser Tyr Thr Glu Tyr	
305 310 315 320	
gtc ttc tgc agg gag tga gct cccc agaccccctc gccactccag cgcccagtc	1135

Val Phe Cys Arg Glu
325

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ttctcctgcc cgagagatga ttacagagcc tcttgtecca cctttgtccc ctggctgctg 1195
ccctccatt ctccccctcc agtagtagct gggtagagacc tgctccgccca ccttccctcc 1255
actacagaac ctgcagccgc aaatcctctg ggcgtcttgc tcttcttttg acctcctgaa 1315
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tttttgacct cttttgaagg tagagtttta gaaggctgga tggaagattc tgagcctgga 1975
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 <212> PRT
 <213> homo sapiens
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Pro Asp Ile Val Glu Leu Asn Val Gly Gly Gln Val Tyr Val Thr Arg
 35 40 45

Arg Cys Thr Val Val Ser Val Pro Asp Ser Leu Leu Trp Arg Met Phe
 50 55 60

Thr Gln Gln Gln Pro Gln Glu Leu Ala Arg Asp Ser Lys Gly Arg Phe
65 70 75 80

Phe Leu Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr Leu
85 90 95

Arg Asp Leu Gln Leu Val Leu Pro Asp Tyr Phe Pro Glu Arg Ser Arg
100 105 110

Leu Gln Arg Glu Ala Glu Tyr Phe Glu Leu Pro Glu Leu Val Arg Arg
115 120 125

Leu Gly Ala Pro Gln Gln Pro Gly Pro Gly Pro Pro Ser Arg Arg
130 135 140

Gly Val His Lys Glu Gly Ser Leu Gly Asp Glu Leu Leu Pro Leu Gly
145 150 155 160

Tyr Ser Glu Pro Glu Gln Gln Glu Gly Ala Ser Ala Gly Ala Pro Ser
165 170 175

Pro Thr Leu Glu Leu Ala Ser Arg Ser Pro Ser Gly Gly Ala Ala Gly
180 185 190

Pro Leu Leu Thr Pro Ser Gln Ser Leu Asp Gly Ser Arg Arg Ser Gly
195 200 205

Tyr Ile Thr Ile Gly Tyr Arg Gly Ser Tyr Thr Ile Gly Arg Asp Ala
210 215 220

Gln Ala Asp Ala Lys Phe Arg Arg Val Ala Arg Ile Thr Val Cys Gly
225 230 235 240

Lys Thr Ser Leu Ala Lys Glu Val Phe Gly Asp Thr Leu Asn Glu Ser
245 250 255

Arg Asp Pro Asp Arg Pro Pro Glu Arg Tyr Thr Ser Arg Tyr Tyr Leu
260 265 270

Lys Phe Asn Phe Leu Glu Gln Ala Phe Asp Lys Leu Ser Glu Ser Gly
275 280 285

Phe His Met Val Ala Cys Ser Ser Thr Gly Thr Cys Ala Phe Ala Ser
 290 295 300

Ser Thr Asp Gln Ser Glu Asp Lys Ile Trp Thr Ser Tyr Thr Glu Tyr
 305 310 315 320

Val Phe Cys Arg Glu
 325

<210> 3

<211> 228

<212> PRT

<213> Drosophila melanogaster

<400> 3

Met Pro Glu Ile Ile Glu Leu Asn Val Gly Gly Val Ser Tyr Thr Thr
 1 5 10 15

Thr Leu Ala Thr Leu Leu Gln Asp Lys Ser Thr Leu Leu Ala Glu Leu
 20 25 30

Phe Gly Glu Gly Arg Asp Ser Leu Ala Lys Asp Ser Lys Gly Arg Tyr
 35 40 45

Phe Leu Asp Arg Asp Gly Val Leu Phe Arg Tyr Ile Leu Asp Phe Leu
 50 55 60

Arg Asp Lys Ala Leu His Leu Pro Glu Gly Phe Arg Glu Arg Gln Arg
 65 70 75 80

Leu Leu Arg Glu Ala Glu His Phe Lys Leu Thr Ala Met Leu Glu Cys
 85 90 95

Ile Arg Ser Glu Arg Asp Ala Arg Pro Pro Gly Cys Ile Thr Ile Gly
 100 105 110

Tyr Arg Gly Ser Phe Gln Phe Gly Lys Asp Gly Leu Ala Asp Val Lys
 115 120 125

Phe Arg Lys Leu Ser Arg Ile Leu Val Cys Gly Arg Val Ala Gln Cys
 130 135 140

Arg Glu Val Phe Gly Asp Thr Leu Asn Glu Ser Arg Asp Pro Asp His
 145 150 155 160

Gly Gly Thr Asp Arg Tyr Thr Ser Arg Phe Phe Leu Lys His Cys Tyr
 165 170 175

Ile Glu Gln Ala Phe Asp Asn Leu His Asp His Gly Tyr Arg Met Ala
 180 185 190

Gly Ser Cys Gly Ser Gly Thr Ala Gly Ser Ala Ala Glu Pro Lys Pro

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195          200          205
Gly Val Asp Thr Glu Glu Asn Arg Trp Asn His Tyr Asn Glu Phe Val
210          215          220

Phe Ile Arg Asp
225

<210> 4
<211> 435
<212> PRT
<213> Homo sapiens

<400> 4

Gln Gln Gln Lys Lys Gly Thr Met Ala Leu Ser Gly Asn Cys Ser Arg
1      5      10
Tyr Tyr Pro Arg Glu Gln Gly Ser Ala Val Pro Asn Ser Phe Pro Glu
20     25     30
Val Val Glu Leu Asn Val Gly Gly Gln Val Tyr Phe Thr Arg His Ser
35     40     45
Thr Leu Ile Ser Ile Pro His Ser Leu Leu Trp Lys Met Phe Ser Pro
50     55     60
Lys Arg Asp Thr Ala Asn Asp Leu Ala Lys Asp Ser Lys Gly Arg Phe
65     70     75
Phe Ile Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr Leu
85     90     95
Arg Asp Arg Gln Val Val Leu Pro Asp His Phe Pro Glu Lys Gly Arg
100    105    110
Leu Lys Arg Glu Ala Glu Tyr Phe Gln Leu Pro Asp Leu Val Lys Leu
115    120    125
Leu Thr Pro Asp Glu Ile Lys Gln Ser Pro Asp Glu Phe Cys His Ser
130    135    140
Asp Phe Glu Asp Ala Ser Gln Gly Ser Asp Thr Arg Ile Cys Pro Pro
145    150    155    160
Ser Ser Leu Leu Pro Ala Asp Arg Lys Trp Gly Phe Ile Thr Val Gly
165    170    175
Tyr Arg Gly Ser Cys Thr Leu Gly Arg Glu Gly Gln Ala Asp Ala Lys
180    185    190
Phe Arg Arg Val Pro Arg Ile Leu Val Cys Gly Arg Ile Ser Leu Ala
195    200    205
Lys Glu Val Phe Gly Glu Thr Leu Asn Glu Ser Arg Asp Pro Asp Arg
210    215    220

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Ala Pro Glu Arg Tyr Thr Ser Arg Phe Tyr Leu Lys Phe Lys His Leu
 225 230 235 240
 Glu Arg Ala Phe Asp Met Leu Ser Glu Cys Gly Phe His Met Val Ala
 245 250 255
 Cys Asn Ser Ser Val Thr Ala Ser Phe Ile Asn Gln Tyr Thr Asp Asp
 260 265 270
 Lys Ile Trp Ser Ser Tyr Thr Glu Tyr Val Phe Tyr Arg Glu Pro Ser
 275 280 285
 Arg Trp Ser Pro Ser His Cys Asp Cys Cys Lys Asn Gly Lys Gly
 290 295 300
 Asp Lys Glu Gly Glu Ser Gly Thr Ser Cys Asn Asp Leu Ser Thr Ser
 305 310 315 320
 Ser Cys Asp Ser Gln Ser Glu Ala Ser Ser Pro Gln Glu Thr Val Ile
 325 330 335
 Cys Gly Pro Val Thr Arg Gln Thr Asn Ile Gln Thr Leu Asp Arg Pro
 340 345 350
 Ile Lys Lys Gly Pro Val Gln Leu Ile Gln Gln Ser Glu Met Arg Arg
 355 360 365
 Lys Ser Asp Leu Leu Arg Thr Leu Thr Ser Gly Ser Arg Glu Ser Asn
 370 375 380
 Met Ser Ser Lys Lys Lys Ala Val Lys Glu Lys Leu Ser Ile Glu Glu
 385 390 395 400
 Glu Leu Glu Lys Cys Ile Gln Asp Phe Leu Lys Ile Lys Ile Pro Asp
 405 410 415
 Arg Phe Pro Glu Arg Lys His Pro Trp Gln Ser Glu Leu Leu Arg Lys
 420 425 430
 Tyr His Leu
 435
 <210> 5
 <211> 140
 <212> PRT
 <213> Caenorhabditis elegans
 <400> 5
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 1 5 10 15
 Tyr Thr Thr Thr Arg Ser Thr Leu Ser Lys Glu Thr Asp Thr Leu Leu
 20 25 30
 Ala Asn Ile Ala Ser Gly Ser Leu Ser Glu Asp Glu Gln Ala Asn Val
 35 40 45

Val Thr Leu Pro Asp Gly Thr Leu Phe Val Asp Arg Asp Gly Pro Leu
 50 55 60

Phe Ala Tyr Val Leu His Phe Leu Arg Thr Asp Lys Leu Ser Leu Pro
 65 70 75 80

Glu Gln Phe Arg Glu Val Ala Arg Leu Lys Asp Glu Ala Asp Phe Tyr
 85 90 95

Arg Leu Glu Arg Phe Ser Thr Leu Leu Ser Asn Ala Ser Ser Ile Ser
 100 105 110

Pro Arg Pro Arg Thr Ala Asn Gly Tyr Asn Thr Ile Thr Ser Gly Ala
 115 120 125

Glu Thr Gly Gly Tyr Ile Thr Leu Gly Tyr Arg Gly
 130 135 140

<210> 6
 <211> 256
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (15)..(15)
 <223> wherein "X" is equal to any amino acid.

<400> 6

Met Ser Arg Pro Leu Ile Thr Arg Ser Pro Ala Ser Pro Leu Xaa Asn
 1 5 10 15

Gln Gly Ile Pro Thr Pro Ala Gln Leu Thr Lys Ser Asn Ala Pro Val
 20 25 30

His Ile Asp Val Gly Gly His Met Tyr Thr Ser Ser Leu Ala Thr Leu
 35 40 45

Thr Lys Tyr Pro Glu Ser Arg Ile Gly Arg Leu Phe Asp Gly Thr Glu
 50 55 60

Pro Ile Val Leu Asp Ser Leu Lys Gln His Tyr Phe Ile Asp Arg Asp
 65 70 75 80

Gly Gln Met Phe Arg Tyr Ile Leu Asn Phe Leu Arg Thr Ser Lys Leu
 85 90 95

Leu Ile Pro Asp Asp Phe Lys Asp Tyr Thr Leu Leu Tyr Glu Glu Ala
 100 105 110

Lys Tyr Phe Gln Leu Gln Pro Met Leu Leu Glu Met Glu Arg Trp Lys
 115 120 125

Gln Asp Arg Glu Thr Gly Arg Phe Ser Arg Pro Cys Glu Cys Leu Val

130 135 140
 Val Arg Val Ala Pro Asp Leu Gly Glu Arg Ile Thr Leu Ser Gly Asp
 145 150 155 160
 Lys Ser Leu Ile Glu Glu Val Phe Pro Glu Ile Gly Asp Val Met Cys
 165 170 175
 Asn Ser Val Asn Ala Gly Trp Asn His Asp Ser Thr His Val Ile Arg
 180 185 190
 Phe Pro Leu Asn Gly Tyr Cys His Leu Asn Ser Val Gln Val Leu Glu
 195 200 205
 Arg Leu Gln Gln Arg Gly Phe Glu Ile Val Gly Ser Cys Gly Gly Gly
 210 215 220
 Val Asp Ser Ser Gln Phe Ser Glu Tyr Val Leu Arg Arg Glu Leu Arg
 225 230 235 240
 Arg Thr Pro Arg Val Pro Ser Val Ile Arg Ile Lys Gln Glu Pro Leu
 245 250 255

 <210> 7
 <211> 237
 <212> PRT
 <213> Homo sapiens

 <400> 7

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 Asn Val Gly Gly His Leu Tyr Thr Thr Ser Leu Thr Thr Leu Thr Arg
 20 25 30
 Tyr Pro Asp Ser Met Leu Gly Ala Met Phe Gly Gly Asp Phe Pro Thr
 35 40 45
 Ala Arg Asp Pro Gln Gly Asn Tyr Phe Ile Asp Arg Asp Gly Pro Leu
 50 55 60
 Phe Arg Tyr Val Leu Asn Phe Leu Arg Thr Ser Glu Leu Thr Leu Pro
 65 70 75 80
 Leu Asp Phe Lys Glu Phe Asp Leu Leu Arg Lys Glu Ala Asp Phe Tyr
 85 90 95
 Gln Ile Glu Pro Leu Ile Gln Cys Leu Asn Asp Pro Lys Pro Leu Tyr
 100 105 110
 Pro Met Asp Thr Phe Glu Glu Val Val Glu Leu Ser Ser Thr Arg Lys
 115 120 125
 Leu Ser Lys Tyr Ser Asn Pro Val Ala Val Ile Ile Thr Gln Leu Thr
 130 135 140

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Ile Thr Thr Lys Val His Ser Leu Leu Glu Gly Ile Ser Asn Tyr Phe
145                      150                      155                      160

Thr Lys Trp Asn Lys His Met Met Asp Thr Arg Asp Cys Gln Val Ser
                      165                      170                      175

Phe Thr Phe Gly Pro Cys Asp Tyr His Gln Glu Val Ser Leu Arg Val
                      180                      185                      190

His Leu Met Glu Tyr Ile Thr Lys Gln Gly Phe Thr Ile Arg Asn Thr
195                      200                      205

Arg Val His His Met Ser Glu Arg Ala Asn Glu Asn Thr Val Glu His
210                      215                      220

Asn Trp Thr Phe Cys Arg Leu Ala Arg Lys Thr Asp Asp
225                      230                      235

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<210> 8
<211> 688
<212> DNA
<213> homo sapiens

<220>
<221> misc_feature
<223> wherein "N" is equal to "A", "C", "G" or "T".

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cggacagcac acgtggatta cccaannnnn nnnnnnnnnn nnnnnnnnagt ggctcctcgt      180
cgctcctccg ggagccaccg ctcttccccc acatcgtgga gctgaacctg gggggccagg      240
tgtactgtac ccggcgctgc acggtggtgt cggtgcccca ctgcgtgctc tggcgcatgt      300
tcacgcagca gcagccgcag gagctggccc gggacagcaa aggcgcgttc ttcttggaac      360
gggacggctt cctcttccgc tacatcctgg attacctgcg ggacttgacg ctctgtctgc      420
ccgactactt ccccgagcgc agccggtctgc agcgcgagggc cgagtacttc gagctgccag      480
agctcgtnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      540
nnnnntgca caaggagggc tcgctgggtg acgagctgct gccgcttggc tactcgagac      600
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<210> 9
<211> 237
<212> PRT

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<213> homo sapiens

<400> 9

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Asn Val Gly Gly His Leu Tyr Thr Thr Ser Leu Thr Thr Leu Thr Arg
 20 25 30

Tyr Pro Asp Ser Met Leu Gly Ala Met Phe Gly Gly Asp Phe Pro Thr
 35 40 45

Ala Arg Asp Pro Gln Gly Asn Tyr Phe Ile Asp Arg Asp Gly Pro Leu
 50 55 60

Phe Arg Tyr Val Leu Asn Phe Leu Arg Thr Ser Glu Leu Thr Leu Pro
 65 70 75 80

Leu Asp Phe Lys Glu Phe Asp Leu Leu Arg Lys Glu Ala Asp Phe Tyr
 85 90 95

Gln Ile Glu Pro Leu Ile Gln Cys Leu Asn Asp Pro Lys Pro Leu Tyr
 100 105 110

Pro Met Asp Thr Phe Glu Glu Val Val Glu Leu Ser Ser Thr Arg Lys
 115 120 125

Leu Ser Lys Tyr Ser Asn Pro Val Ala Val Ile Ile Thr Gln Leu Thr
 130 135 140

Ile Thr Thr Lys Val His Ser Leu Leu Glu Gly Ile Ser Asn Tyr Phe
 145 150 155 160

Thr Lys Trp Asn Lys His Met Met Asp Thr Arg Asp Cys Gln Val Ser
 165 170 175

Phe Thr Phe Gly Pro Cys Asp Tyr His Gln Glu Val Ser Leu Arg Val
 180 185 190

His Leu Met Glu Tyr Ile Thr Lys Gln Gly Phe Thr Ile Arg Asn Thr
 195 200 205

Arg Val His His Met Ser Glu Arg Ala Asn Glu Asn Thr Val Glu His
 210 215 220

Asn Trp Thr Phe Cys Arg Leu Ala Arg Lys Thr Asp Asp
 225 230 235

<210> 10

<211> 80

<212> DNA

<213> homo sapiens

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aggatgtagc ggaagaggaa

80

<210> 11
 <211> 19
 <212> DNA
 <213> homo sapiens

<400> 11
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19

<210> 12
 <211> 20
 <212> DNA
 <213> homo sapiens

<400> 12
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<210> 13
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 <213> homo sapiens

<400> 13

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 1 5 10 15

Cys Thr Val Val Ser Val Pro Asp Ser Leu Leu Trp Arg Met Phe Thr
 20 25 30

Gln Gln Gln Pro Gln Glu Leu Ala Arg Asp Ser Lys Gly Arg Phe Phe
 35 40 45

Leu Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr Leu Arg
 50 55 60

Asp Leu Gln Leu Val Leu Pro Asp Tyr Phe Pro Glu Arg Ser Arg Leu
 65 70 75 80

Gln Arg Glu Ala Glu Tyr Phe Glu Leu Pro Glu Leu Val Arg Arg Leu
 85 90 95

Gly Ala Pro Gln Gln
 100

<210> 14
 <211> 13
 <212> PRT
 <213> homo sapiens

<400> 14

Met Ala Leu Ala Asp Ser Thr Arg Gly Leu Pro Asn Gly

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1              5              10

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<400>  15

Gly Gln Val Tyr Val Thr Arg Arg Cys Thr Val Val Ser
1              5              10

<210>  16
<211>  13
<212>  PRT
<213>  homo sapiens

<400>  16

Pro Gly Pro Pro Pro Ser Arg Arg Gly Val His Lys Glu
1              5              10

<210>  17
<211>  13
<212>  PRT
<213>  homo sapiens

<400>  17

Gln Ser Leu Asp Gly Ser Arg Arg Ser Gly Tyr Ile Thr
1              5              10

<210>  18
<211>  13
<212>  PRT
<213>  homo sapiens

<400>  18

Pro Pro Glu Arg Tyr Thr Ser Arg Tyr Tyr Leu Lys Phe
1              5              10

<210>  19
<211>  18
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<213>  homo sapiens

<400>  19

Phe Pro Glu Arg Ser Arg Leu Gln Arg Glu Ala Glu Tyr Phe Glu Leu
1              5              10              15

Pro Glu

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<212> PRT
 <213> homo sapiens

<400> 20

Phe Gly Asp Thr Leu Asn Glu Ser Arg Asp Pro Asp Arg Pro
 1 5 10

<210> 21
 <211> 20
 <212> PRT
 <213> homo sapiens

<400> 21

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 1 5 10 15

Cys Ala Phe Ala
 20

<210> 22
 <211> 8
 <212> PRT
 <213> bacteriophage T7

<400> 22

Asp Tyr Lys Asp Asp Asp Asp Lys
 1 5

<210> 23
 <211> 733
 <212> DNA
 <213> homo sapiens

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 tctcccgagc tcctgaggtc acatgcgtgg tgggtggcgt aagccacgaa gaccctgagg 180
 tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg 240
 aggagcagta caacagcacg taccgtgtgg tcagcgtcct caccgtcctg caccaggact 300
 ggcgtaatgg caaggagtac aagtgcgaagg tctccaacaa agccctccca acccccatcg 360
 agaaaaacat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc 420
 catcccgagg tgagctgacc aagaaccagg tcagcctgac ctgcctgggc aaaggcttct 480
 atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagaac aactacaaga 540
 ccacgcctcc cgtgtcggac tccgacggct ccttcttct ctacagcaag ctaccctggt 600

acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcac gaggctctgc 660
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 gactctagag gat 733

<210> 24
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 24
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<210> 25
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 <212> DNA
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<400> 25
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<210> 26
 <211> 39
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<400> 26
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<210> 27
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<400> 27
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<210> 28
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 <212> DNA
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<400> 28
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<210> 29
 <211> 23
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<210> 30
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<210> 32
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gaggtgcagc tgttcagtc tgc                                23

<210> 33
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<400> 33
caggtacagc tgcagcagtc agg                                23

<210> 34
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 Ile Asp Arg Cys Gly Asn His Phe Gly Ile Ile Leu Asn Tyr Leu Arg
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 Phe Asp Lys Leu Ser Leu Arg Phe Asn Glu Arg Ile Leu Phe Ile Lys
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Asp Arg Lys His Thr Lys Val Glu Phe Pro Glu Ala Arg Ile Tyr Glu
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